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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/568,673

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Jun Cheng

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DICKINSON WRIGHT PLLC
1901 L STREET NW
SUITE 800
WASHINGTON, DC 20036

EXAMINER

RADONIC, NICOLA

ART UNIT

PAPER NUMBER

4192

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/568,673	Applicant(s) CHENG ET AL.	
	Examiner NICOLA RADONIC	Art Unit 4192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/17/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: Paragraph 77 f.e. should probably be i.e. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claims 13, 15, 16, 19, 20, 21 and 22** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. **Claims 13, 14, 15, 16, 19, 20, 21, and 22** modify an apparatus in claim 11 with process claims. There is insufficient antecedent basis for these limitations in the claims.

5. **For purposes of examination claims 13, 14, 19, 20, 21 and 22** will be considered below as if they were properly phrased. Correction is required.

Claim Rejections - USC 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. **Claims 11-22** are rejected under USC 102(b) as being anticipated by Bohnke (US 2002/0102940).

8. **As per claim 11**, Bohnke teaches: A wireless communication apparatus, comprising: a subcarrier number determining section determining a number of subcarriers allocated every communicating party, **(Bohnke, paragraphs 75 and 77, uses an 'Adaptive Loading Calculation block' to calculate 'fading channel profile information' for carrier allocation)**; a first transmission section transmitting information about a number of subcarriers **(Bohnke paragraph 46 describes sending adaptive loading information, which includes information about the number of subcarriers)** determined by the subcarrier number determining section to each communicating party **(Bohnke paragraph 46 describes exchanging loading information between transmitter and receiver)** and an allocation control section selecting subcarriers to allocate transmission data to every communicating party **(Bohnke paragraph 138 describes the exchange of the adaptive loading information from transmitter to receiver)** based on channel quality information for the

number of subcarriers for each communicating party extracted from a received signal **(Bohnke paragraph 142 describes calculating a suitable loading table based on receive channel quality measurements).**

9. **As per claim 12**, Bohnke teaches: The wireless communication apparatus according to claim 11 **(see treatment of claim 11)**, wherein the subcarrier number determining section determines the number of subcarriers allocated every communicating party in such a manner as to achieve a required transmission rate or more for each communicating party **(Bohnke paragraph 52 describes an adaptive loading calculation unit selecting modulation schemes on each subcarrier depending on channel transfer function information).**

10. **Treating claim 13** as if it were properly formed for purpose of examination, Bohnke teaches: the wireless communication apparatus according to claim 11, **(see treatment of claim 11)** wherein the subcarrier number determining section takes the number of subcarriers allocating to a communicating party to be all subcarriers within a communication band **(treated as preamble as applicant assigns the entire channel capacity to the device)** where the amount of data for the channel quality information of the subcarriers selected by the communicating party and subcarrier identification information indicating the subcarriers selected by the communicating party is larger than an amount of data for channel quality information for all subcarriers within the communication band **(Bohnke paragraph 32 discusses the format of logical**

channel status messages, where he combines portions of data to make variable message lengths).

11. **Treating claim 14** as if it were properly formed for purpose of examination, Bohnke teaches: The wireless communication apparatus according to claim 11, **(see treatment of claim 11)** wherein: the subcarrier number determining section determines the number of subcarriers for a communicating party by multiplying the number of subcarriers allocated to the communicating party by the allocation control section in one frame previous to a current frame by a predetermined constant **(Bohnke paragraph 6 describes picking a subset of carriers in a channel for calculating signal quality, and all channel quality calculations are necessarily based on previous frame data)**; and the first transmission section transmits information for the number of subcarriers determined by the subcarrier number determining section in the current frame **(Bohnke paragraph 138 describes the exchange of the adaptive loading information from transmitter to receiver).**

12. **As per claim 17**, Bohnke teaches: A communication terminal apparatus communicating with the wireless communication apparatus according to claim 11 **(see treatment of claim 11)**, wherein the communication terminal apparatus comprises: a subcarrier selection section selecting subcarriers of the number of subcarriers using information for the number of subcarriers extracted from the received signal in order of good reception quality **(Bohnke paragraph 77 uses carrier fading information to**

calculate adaptive loading information, for use with sub carrier assignments); a channel quality information generating section generating the channel quality information for subcarriers selected by the subcarrier selection section (**Bohnke paragraph 77 addresses the ‘Adaptive Loading Calculation block’ used to select subcarriers using the ‘fading channel profile information’**); and a second transmission section transmitting the channel quality information generated by the channel quality information generating section (**Bohnke paragraph 73 exchanges the ‘used subcarrier loading scheme’ between transmitter and receiver**).

13. **As per claim 18**, A base station apparatus equipped with the wireless communication apparatus according to claim 11, (**see treatment of claim 11, in addition a wireless communications apparatus and base station are considered overlapping in function, so the wireless terminal function is seen as already part of the base station**).

14. **Treating claim 19** as if it were properly formed for purpose of examination, Bohnke teaches: A subcarrier allocation method comprising the steps of: determining a number of subcarriers allocated every communicating party (**Bohnke paragraphs 75 and 77 describe calculating loading tables**); transmitting information for the determined number of subcarriers to each communicating party (**Bohnke paragraph 46 describes distributing loading tables from transmitter to receiver**); and selecting subcarriers transmission data is allocated to every communicating party based

on channel quality information for the number of subcarriers for each communicating party extracted from a received signal (**Bohnke paragraph 142 describes calculating a suitable loading table based on receive channel quality measurements**).

15. **Treating claim 20** as if it were properly formed for purpose of examination, Bohnke teaches: The subcarrier allocation method according to claim 19 (**see treatment of claim 19**), wherein, when determining the number of subcarriers allocated every communicating party, the number of subcarriers allocated every communicating party is determined in such a manner so as to achieve a required transmission rate or more for each communicating party (**Bohnke paragraph 52 describes an adaptive loading calculation unit selecting modulation schemes on each subcarrier depending on channel transfer function information**).

16. **Treating claim 21** as if it were properly formed for purpose of examination, Bohnke teaches: The subcarrier allocation method according to claim 19 (**see treatment of claim 19**), wherein the number of subcarriers allocated is taken to be all subcarriers within the communication band (**treated as preamble as applicant assigns the entire channel capacity to the device**), and information for the number of all subcarriers is transmitted to a communicating party where the amount of data for the channel quality information of subcarriers selected by the communicating party and subcarrier identification information indicating the subcarriers selected by the communicating party is larger than an amount of data for channel quality information for

all subcarriers within the communication band (**Bohnke paragraph 32 discusses the format of logical channel status messages, where he combines portions of data to make variable message lengths**).

17. **Treating claim 22** as if it were properly formed for purpose of examination, Bohnke teaches: The subcarrier allocation method according to claim 19 (**see treatment of claim 19**), wherein: the number of subcarriers for a communicating party allocated subcarriers in one frame previous to a current frame is determined by multiplying the number of subcarriers allocated to said communicating party in said one frame previous to the current frame by a predetermined constant (**Bohnke paragraph 6 describes picking a subset of carriers in a channel for calculating signal quality, and all channel quality calculations are necessarily based on previous frame data**); and information for the determined number of subcarriers is transmitted (**Bohnke paragraph 138 describes the exchange of the adaptive loading information from transmitter to receiver, but this limitation is also depreciated as being descriptive and failing to describe an invention**).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NICOLA RADONIC whose telephone number is (571)270-5246. The examiner can normally be reached on IFW work schedule, with some Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pankaj Kumar can be reached on (571) 272-3011. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NR
/Pankaj Kumar/
Supervisory Patent Examiner, Art Unit 4192